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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,339	02/21/2001	Sadaji Tsuge	P107336-00018	1063

7590 06/27/2006

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC
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EXAMINER

DIAMOND, ALAN D

ART UNIT PAPER NUMBER

1753

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

h

Interview Summary	Application No.	Applicant(s)	
	09/788,339	TSUGE, SADAJI	
	Examiner	Art Unit	
	Alan Diamond	1753	

All participants (applicant, applicant's representative, PTO personnel):

(1) Alan Diamond. (3)_____.

(2) Marvin Motsenbocker, Reg. No. 36,614. (4)_____.

Date of Interview: 21 June 2006.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☒ Yes e) ☐ No.

If Yes, brief description: proposed amendment to the claims faxed 6/20/06.

Claim(s) discussed: the proposed claims in said fax.

Identification of prior art discussed: art of record.


Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The proposed claims were discussed with respect to the prior art. It was noted that Claim D in said fax appears promising since it recites a continuous, uninterrupted thick bulk semiconductor layer and also a continuous, uninterrupted highly doped n-type amorphous silicon layer. The Examiner noted that there should be an order recited for the semiconductor layers in the device, as in instant Figure 2, since the highly doped layer is for establishing a contact, not for establishing the junction. Applicant indicated that an RCE would be filed.

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Attachment to Interview Summary of 6/21/06

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Facsimile Transmittal

To:	Examiner Alan Diamond	From:	Marvin Motsenbocker
Fax:	(571) 273-1338	Pages:	2
Phone:	(571) 272-1338	Date:	June 20, 2006
Ser. No. 09/788,339			
Re:	Atty. Docket TOR.002.0001.NP		

• Comments:

As discussed, I have just taken over this case and intend to file an RCE but would like to briefly check with you before proceeding with new claims for expediency.

I am attaching draft claim terms for discussion.

Thank you again.
Sincerely
Marvin Motsenbocker

Proposed

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ADD
6/20/06

CONFIDENTIALITY NOTICE: This facsimile and any attachments contain information from the law firm of Novak Druce DeLuca & Quigg, LLP, which may be confidential and/or privileged. The information is intended to be for the use of the individual or entity named on this facsimile. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of the contents of this facsimile is prohibited. If you receive this facsimile in error, please notify us by reply facsimile immediately so that we can arrange for the retrieval of the original documents at no cost to you.

Claim Terms (underlined) for Discussion on June 21, 2006 at 9 AM

- A.** A solar cell module with improved moisture resistance comprising:
a light incidence front light transmitting member made of a glass containing at least sodium;
a rear member comprising resin film;
a plurality of solar cell elements sealed with a sealing resin between the front light transmitting member and the rear member, wherein each of said plurality of solar cell elements includes
a photoactive hetero junction between a crystalline semiconductor and an amorphous semiconductor, and
a continuous, uninterrupted thick bulk semiconductor layer interposed between the light incidence front light transmitting member and the photoactive hetero junction that blocks movement of sodium ions from entering the photoactive hetero junction.
- B.** A solar cell module as described in claim C, further comprising a first transparent electrode and collector electrode on the front side of the thick bulk semiconductor layer, and a second transparent electrode and collector electrode on the rear side of the thick bulk semiconductor layer
- C.** A solar cell module with improved moisture resistance comprising:
a light incidence front light transmitting member made of a glass containing at least sodium;
a rear member comprising resin film;
a plurality of solar cell elements sealed with a sealing resin between the front light transmitting member and the rear member, wherein each of said plurality of solar cell elements includes
a photoactive hetero junction between a crystalline semiconductor and an amorphous semiconductor, and
a continuous, uninterrupted highly doped n-type amorphous silicon layer interposed between the light incidence front light transmitting member and the photoactive hetero junction that blocks movement of sodium ions from entering the photoactive hetero junction.
- D.** A solar cell module with improved moisture resistance comprising:
a light incidence front light transmitting member made of a glass containing at least sodium;
a rear member comprising resin film;
a plurality of solar cell elements sealed with a sealing resin between the front light transmitting member and the rear member, wherein each of said plurality of solar cell elements includes
a photoactive hetero junction between a crystalline semiconductor and an amorphous semiconductor, and
a continuous, uninterrupted thick bulk semiconductor layer and also a continuous, uninterrupted highly doped n-type amorphous silicon layer interposed between the light incidence front light transmitting member and the photoactive hetero junction that block movement of sodium ions from entering the photoactive hetero junction.

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E. A solar cell module with improved moisture resistance comprising:
a light incidence front light transmitting member made of a glass containing at least sodium;
a rear member comprising resin film;
a plurality of solar cell elements sealed with a sealing resin between the front light transmitting member and the rear member, wherein each of said plurality of solar cell elements includes
a thick bulk n-type crystalline silicon substrate, having formed thereon at a first surface facing the rear, an intrinsic amorphous silicon layer, a p-type amorphous silicon layer, a transparent electrode, and a collector electrode in this order, and
having formed thereon at a second surface facing the front,
an intrinsic amorphous silicon layer, an n-type amorphous silicon layer, a transparent electrode, and a collector electrode in this order;
wherein a pin junction is formed between the n-type crystalline silicon substrate and the p-type thin film amorphous semiconductor layer and
wherein the thick bulk n-type crystalline silicon substrate shields sodium ions from penetrating to the pin junction from the front light transmitting member..

F. A solar cell module with improved moisture resistance comprising:
a light incidence front light transmitting member made of a glass containing at least sodium;
a rear member comprising resin film;
a plurality of solar cell elements sealed with a sealing resin between the front light transmitting member and the rear member, wherein each of said plurality of solar cell elements includes
a thick bulk n-type crystalline silicon substrate, having formed thereon at a first surface facing the rear, an intrinsic amorphous silicon layer, a p-type amorphous silicon layer, a transparent electrode, and a collector electrode in this order, and
having formed thereon at a second surface facing the front,
an intrinsic amorphous silicon layer, a highly doped n-type amorphous silicon layer, a transparent electrode, and a collector electrode in this order;
wherein a pin junction is formed between the n-type crystalline silicon substrate and the p-type thin film amorphous semiconductor layer and
wherein the highly doped n type amorphous silicon layer shields sodium ions from penetrating to the pin junction from the front light transmitting member.

* sodium ions are shielded by a thick bulk semiconductor" para 49

* Another important feature is to trap or block movement of alkaline sodium by interposing a "high dope n-type" material between the glass surface and the active region, as described, for example in paragraph 46.

* much of the cited art lacks layers that are continuous with respect to blocking sodium diffusion from a glass face to the pin region, this is now recited in claims A-C

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